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TAPPING APPARATUS.

APPLICATION FILED MAY 21, 1903.

NO MODEL.

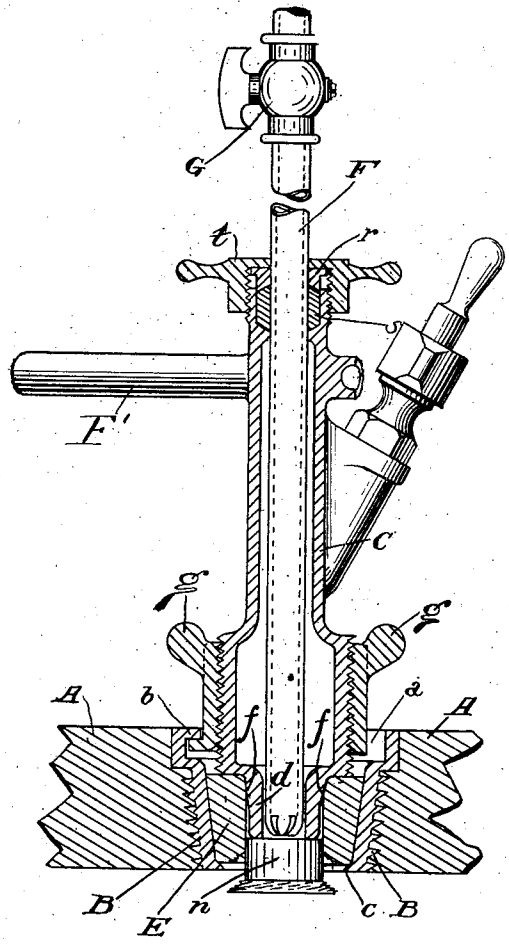


Fig. 1.

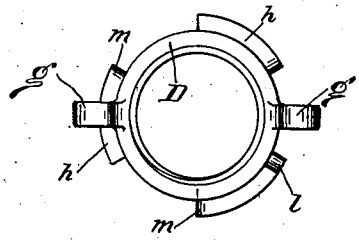


Fig. 3.

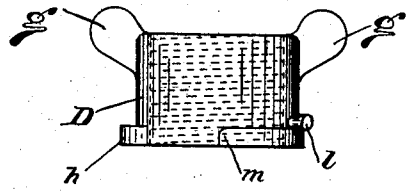


Fig. 4.

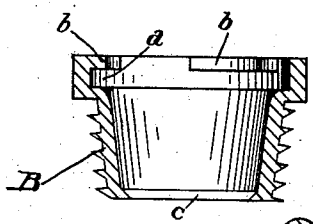


Fig. 5.

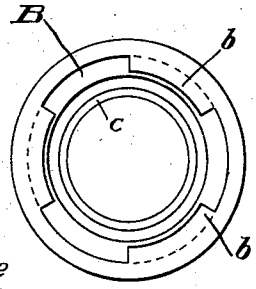


Fig. 6.

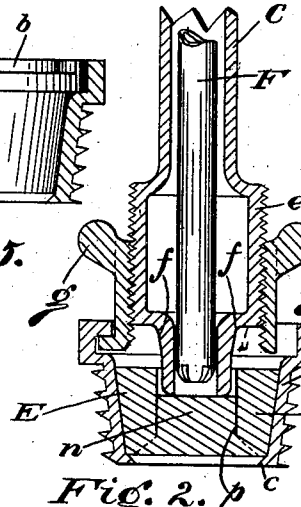


Fig. 2.

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UNITED STATES PATENT OFFICE.

FREDERICK PENTLARGE AND JOHN H. VEHR, OF CINCINNATI, OHIO, ASSIGNORS TO THE UNITED STATES BUNG MANUFACTURING COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF NEW YORK.

TAPPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 767,658, dated August 16, 1904.

Application filed May 21, 1903. Serial No. 158,137. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK PENTLARGE and JOHN H. VEHR, citizens of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Tapping Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Our improvements relate to apparatus for readily and easily tapping barrels, kegs, and other liquid-receptacles for the removal of the liquid contents, and the improvements have particular relation to apparatus for the tapping of beer kegs, barrels, and the like, to be applied at the faucet-hole, which is sealed by any of the ordinary and well-known faucet-plugs or bungs.

Beer-kegs and the like are, as is well known, provided with an opening which when the keg has been filled is sealed by a bung or faucet-plug. While at first a suitable hole was merely bored in the keg for this purpose and corks used to seal the opening, as the corks were large and expensive and the kegs were used over and over again the hole would with use become enlarged and irregular, so that it has long been customary to provide a metallic bushing or a permanent lining for the opening tapering evenly on the inside and to provide a wooden plug or bung to replace the cork. At first the beer was drawn from the keg by an ordinary faucet or spigot; but later it became customary to use beer-pumps or to force the beer from the keg by compressed gas. These two methods of drawing the liquid, however, require different-sized openings—a large hole for the faucet and a small hole for the pump—and as a result a good deal of inconvenience and trouble is experienced by shippers and consumers. Kegs designed for a customer using a beer-pump cannot be used by a customer having only an ordinary faucet.

The underlying purpose of our invention, therefore, is to furnish a tapping apparatus which shall be applicable for use with the ordinary-sized faucet bushing and plug, so that the ordinary faucet can be used, and at the same time the apparatus is designed to hold the pump securely and to provide a safe and reliable connection between the tapping-tool and the bung-bushing without the use of a gasket, of rubber, or other packing-ring to close the joint between the tool and the bushing. In tapping apparatus for beer-kegs and the like heretofore in use, so far as we are familiar with them, provision has had to be made for such a gasket, and these rings or gaskets frequently become displaced or wear so that the receptable when tapped is found to leak at the joint, a fault which it is impossible to remedy when the keg has been tapped until its contents are removed. By means, therefore, of our novel construction and arrangement of parts, to be hereinafter particularly pointed out and claimed, we provide a tapping apparatus for general use, as above set forth, and a tight joint is obtained between the plunger and the faucet-plug or bung itself without the necessity of any gasket or packing-ring to close the joint, a shoulder on the plunger making tight contact with the bung and clamping it between the plunger and a reëntering supporting-flange or other projection on the bung-bushing or against the inner surface of the bushing itself when a tapering bushing is used.

In the drawings, Figure 1 is a central vertical section of our improved apparatus as applied to the faucet-opening. Fig. 2 is a similar vertical section of the apparatus in its initial position. Fig. 3 is a plan view, and Fig. 4 is a side elevation, of the coupling-sleeve. Fig. 5 is a vertical section of the bung-bushing, and Fig. 6 is a plan view of the same.

A is a portion of the head of the barrel or keg provided with a faucet-opening in which is secured flush with the outer and inner surface of the head the bung-bushing B of the ordinary size. This bushing is enlarged at its outer portion to form an annular recess *a* and is provided with reëntering flanges *b b*, while at its inner edge it is preferably pro-

vided with a flange *c* to hold the faucet-plug, as will be hereinafter described.

C is the plunger, tubular in construction, provided with a slightly-conical driving portion *d* at its lower end. Above the end portion the plunger is expanded and formed with screw-threads *e*, leaving a curved annular surface *f* between the screw-threaded portion and the driving end and also forming a shoulder *u* on the plunger.

Mounted on the screw-threaded portion *e* of the plunger is the threaded coupling sleeve or nut D, provided with ears *g g* for conveniently turning the same. This coupling-sleeve D is provided with segmental lugs or shoulders *h*, corresponding to the number of flanges *b* on the bung-bushing, and a pin or lug *l* is provided for one of the shoulders. For securing the plunger to the bushing the segment-flanges *h* of the coupling-sleeve are inserted between the reëntering flanges on the bung-bushing in the annular recess in the bung-bushing, and the coupling-sleeve is then turned by the ears *g* until the pin or stop *l* strikes against the end of one of the flanges of the bushing, and the plunger is thus locked to the bushing. In order to permit the ready engagement of the coupling-sleeve to the bushing, the front edges of the shoulder *h* are beveled off, as shown at *m*.

E is the faucet-plug, which has been driven into the bung-bushing to seal the keg after it is filled, and this faucet-plug or bung may be of any of the well-known constructions provided with a central displaceable core and of a size for use with the ordinary faucet. In the form of faucet-plug shown in the drawings the central core *n* is partly cut away by the annular cut *p* severing the core from the body within a short distance of the inner face of the bung, but leaving the core as a plug attached to the body of the bung. Instead of this form other constructions can be used in which the core portion is previously removed, leaving a sufficient portion, however, to seal the receptacle.

When the plunger has been secured to the bung-bushing as heretofore described, the apparatus will be in the position shown in Fig. 2, with the driving end *d* resting just above the core of the bung.

F F are handles on the upper portion of the plunger C, and the plunger is preferably cast in one piece with these handles integral therewith. The handles are then turned, and as the sleeve D is locked to the bung-bushing the conical driving end of the tool is forced down, which pushes inward the core *n* of the faucet-plug, breaking it away from the body, and the curved annular surface *f* and the shoulder *u* on the plunger is brought down tightly on the bung, compressing the bung slightly, the bung forming a valve-seat for the shoulder *u* on the plunger and forming a perfectly tight joint, while the flange *c* or the inner tapering surface of the bung-bushing holds the bung in place. The distance from the outer end of the driving end *d* to the contact-surface *f* is such that the core *n* of the faucet-plug is not entirely dislodged from its position, but still holds the contents of the barrel sealed after the plunger is securely seated on the bung.

The plunger C carries the siphon or faucet tube F, which passes down through the center of the plunger. A tight joint is formed between the siphon or faucet tube and the plunger by the stuffing-box at the upper end, which consists of the gland *r* with a beveled lower edge and the packing-ring of rubber or other suitable material *s*, which is beveled at each edge, and the gland is pressed tightly against the gasket by the packing-nut *t*, which is screw-threaded on the upper end of the plunger C. The siphon-tube is provided with the usual petcock G and with connections for the pump or discharge-pipe. The final opening of the barrel is accomplished by pushing down the siphon-tube, which dislodges the central portion of the bung and the contents are ready for discharge.

The plunger can be provided with the usual air-inlet (not shown in the drawings, but located between the handles F) for discharging the contents of the barrel under pressure.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a tapping apparatus, a plunger having an annular shoulder and a reduced bung-core driving end, means for advancing the plunger for starting the bung-core and effecting a seal between the said shoulder and the bung, and means for thereafter dislodging the bung-core.

2. In a tapping apparatus, a plunger of less diameter than the bung-seat of the bushing and adapted to enter the same, said plunger having an annular shoulder and a reduced bung-core driving end, and means for advancing the plunger for effecting a seal between said shoulder and the bung.

3. In a tapping apparatus, a plunger having an annular shoulder and a bung-core driving end of less length than the depth of the bung, means for advancing the plunger for starting the bung-core and effecting a seal between said shoulder and the bung, and means for thereafter dislodging the bung-core.

4. In a tapping apparatus, a plunger of less diameter than the bung-seat of the bushing and adapted to enter the same, said plunger having an annular shoulder and a bung-core driving end of less length than the depth of the bung, means for advancing the plunger for starting the bung-core and effecting a seal between the said shoulder and the bung, and means for thereafter dislodging the bung-core.

5. In a tapping apparatus, a bung-bushing

having an internal flange tapering to an edge, in combination with a bung having a separable core, said core adapted to engage said flange and be compressed thereagainst under the pressure of a plunger.

6. In a tapping apparatus, a bung-bushing of substantially conical shape and having an internal flange tapering to an edge, in combination with a bung having a separable core, said core adapted to engage said flange and be compressed thereagainst under the pressure of a plunger.

7. In a tapping apparatus, the combination with a bushing provided with means for retaining a bung against the pressure of a plunger, a plunger having an annular shoulder and a reduced bung-core driving end, means for advancing the plunger for starting the bung-core and effecting a seal between said shoulder and bung, and means for thereafter dislodging the bung-core.

8. In a tapping apparatus, the combination of a bushing having an internal tapering flange, a bung having a separable core, a plunger of less diameter than the bung-seat of the bushing and adapted to enter the same, said plunger having an annular shoulder and a reduced driving end of less length than the depth of the bung, means for advancing the plunger to compress the bung in its seat, start the bung-core and effect a seal between said shoulder and the bung, and means for thereafter dislodging the bung-core.

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